



Maryland Department of Agriculture

Office of Plant Industries and Pest Management

Larry Hogan, Governor

Boyd Rutherford, Lt. Governor

Joseph Bartenfelder, Secretary

Mary Ellen Setting, Deputy Secretary

Plant Protection and
Weed Management

The Wayne A. Cawley, Jr. Building

50 Harry S. Truman Parkway

Annapolis, Maryland 21401

www.mda.maryland.gov

Agriculture | Maryland's Leading Industry

410.841.5920 Baltimore/Washington

410.841.5835 Fax

800.492.5590 Toll Free

BEST MANAGEMENT PRACTICES (BMP):

For

Boxwood Blight, *Calonectria pseudonaviculata*, In Nursery Production

**CONTACT THE MARYLAND DEPARTMENT OF AGRICULTURE,
PLANT PROTECTION & WEED MANAGEMENT SECTION,
IF YOU SUSPECT INFECTION MAY BE PRESENT ON BOXWOOD, SARCOCOCCA
OR PACHYSANDRA**

Phone 410-841-5920 Fax 410-841-5835

GOAL: Prevent the introduction and spread of *C. pseudonaviculata* within your nursery operation and to the surrounding environs.

RATIONALE: Implementing a BMP- based system of plant care has been demonstrated to eliminate the pathogen from the production cycle. Employee training and awareness are critical to reducing disease effects.

Pathogen Exclusion

- **KNOW YOUR SUPPLIER!** Ask questions regarding the status of boxwood blight at the point of purchase. Determine if protective fungicides were applied prior to receipt of your order of the plant material. Fungicide use may mask disease symptom expression.
- **Perform VISUAL INSPECTIONS** of all incoming host plants, regardless of origin, for disease symptoms prior to introduction into your nursery.
- **KEEP NEW PLANTS GROUPED TOGETHER AND ISOLATED** at least 3 meters away from other nursery stock for a minimum of 30 days to monitor for disease symptoms.
- **AVOID PRUNING OR FUNGICIDE** application for a period of 30 days after the arrival of each shipment. This will allow time for expression of symptoms on infected but asymptomatic plants.

Nursery Layout

- **CREATE A THREE METER SPACE OR PHYSICAL BARRIER** between blocks of host plants (boxwood, pachysandra, and sarcococca).
- **MAXIMIZE SPACE** between individual plant containers.
- **KEEP PLANTS FROM SAME SOURCE TOGETHER.**
- **PLACE PLANTS ON CONCRETE PADS, OR WEED BARRIER** over gravel to allow for clean-up of fallen leaves. Containers placed directly on the soil surface allow leaf debris to become embedded in soil and difficult to remove.
- **CREATE A REMOTE DISPOSAL SITE** where burying or burning infected plants is feasible.

Moisture Management

- **AVOID OVERHEAD WATERING** which encourages fungal development.
- **AVOID OVERWATERING.** Prolonged periods of high humidity (i.e. overnight), leaf wetness, and standing accumulations of water provide optimum conditions for pathogen growth. Water early in the day to minimize periods of leaf wetness.

Plant Care

- Utilize new **STERILE POTTING MEDIA**. No media or plant containers should be reused without sterilization.
- **PRUNE SYSTEMATICALLY.** Work should progress within a block or variety until completion before moving to the next block. Remember to sanitize equipment when moving between blocks and varieties.
- **LOW HUMIDITY DURING PRUNING** can assist in lowering infection transmission from plant to plant. Do not prune wet plants.
- **LEAF LITTER AND PLANT DEBRIS REMOVAL & DESTRUCTION** eliminates an important source of infection
- **REMOVE WEAK/UNHEALTHY PLANTS** from the production site and dispose of as directed by MDA.

Record Keeping

It is important to maintain records of:

- **MOVEMENT OF HOST PLANTS** both sent and received. Note quantities, varieties, shipper name, sources and destinations.
- **PROPAGATION TECHNIQUES, PRUNING, WATER/FERTILIZER REGIMEN(S)** for each host plant variety or source.
- **PESTICIDES USED** including date, active ingredient, quantity applied, concentration, and method of application.

Sanitation, Handling, and Disposal

IF YOU SUSPECT INFECTION BY BOXWOOD BLIGHT, NOTIFY MDA PRIOR TO ANY MOVEMENT OR DISPOSAL ACTIVITIES OF INFECTED OR SUSPECT HOST PLANTS

- All tools and other **EQUIPMENT SHOULD BE STERILIZED AFTER EACH USE.** A 10% sodium hypochlorite (bleach) solution for a minimum of 5 minutes is effective. Chlorine solutions can damage metal surfaces, so rinse metal tools with water after sterilization. For information on alternative sanitation methods use the following link: http://www.ct.gov/caes/lib/caes/documents/special_features/boxwood_blight/list_of_sanitizers_for_cps_02-03-14.pdf
- **NO DISPOSAL ACTIVITIES IN RAIN OR SNOW.** Periods of low humidity are ideal for moving host plants.
- **BURNING** is the preferred method of disposal of infected or suspect material
- **BURIAL** is acceptable at a depth of 24 inches and covered with 2 inches of sterile soil (clean soil from a source other than where infected boxwoods were found).
- **VEHICLES, WORK SURFACES, AND EQUIPMENT SANITIZATION** should be conducted when handling or moving host plants from different sources or to another location.

EMPLOYEE AWARENESS

- **EDUCATE** nursery personnel to recognize the disease symptoms and to understand best management practices. See www.boxwoodblight.org for photos and more information.